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Mapping of Nucleic Acid Sequences on the Human Genome

Human genes were mapped using the Stanford G3 Hybrid Panel (Stewart et al., 1997), which is marketed by Research Genetics, Huntsville, Alabama. This panel consists of 83 different genomic DNAs of human-hamster hybrid cell lines and allows resolution of 500 kilobases. The hybrid cell lines were obtained by fusion of irradiated diploid human cells with cells of the Chinese hamster. The retention pattern of the human chromosome fragments is determined by means of gene-specific primers in a polymerase chain reaction and is analyzed using software available from the Stanford RH server (http://www.stanford.edu/RH/rhserver_form2.html). This program determines the STS marker that is nearest to the desired gene. The corresponding cytogenetic band was determined using the "Mapview" program of the Genome Database (GDB), (http://gdbwww.dkfz-heidelberg.de).

In addition to mapping of genes on the human chromosome set by various experimental methods, it is possible to determine the location of genes on this by biocomputer methods. To do this, the known program e-PCR was used (Schuler GD (1998) Electronic PCR: Bridging the Gap between Genome Mapping and Genome Sequencing. Trends Biotechnol 16: 456-459, Schuler GD (1997). Sequence Mapping by Electronic PCR. Genome Res. 7: 541-550). The database used here no longer corresponds to the one cited in the literature, but is a further development which includes data from the public database RHdb (http://www.ebi.ac.uk/RHdb/-index.html). Analogously to the mapping by the hybrid panels,

the results were evaluated with the above-mentioned software and the software of the Whitehead Institute

~(http://carbon.wi.mit.edu:8000/cgi-bin/contig/rhmapper.pl).

TABLE I

Col. 1 - Sequence ID No.:

Col. 2 - Expression in hysteromyomic tissue:

Col. 3 - Function

Col. 4 - Modules

Col. 5 - Length of the applied sequence in bases

Col. 6 - Cytogenetic localization

Col. 7 - Next marker

[Key to Table I:]

[Col. 2:] erhöht = elevated

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[Seq. ID No.: 14, 15, 17, 30, 31] unbekannt = unknown

[Seq. ID No.: 16] Homolog zu Homo sapiens... = homologous to homo sapiens...

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[Seq. ID No.: 52] Verlängerung von Seq. ID. 14 = Lengthening of Seq. ID. 14

TABLE I

nächster Marker					D5S1730		796360	105520	4A/i.0708									WI-4204					7.00004	1123331								-					WI-4204	
e e	Lokalisation				5011 2-013 1	1.5.4 5.1.1 pu	1p36.11-p36.13	2023.3	5932-933.1	2p22.3-p22.1				7p12.2-p13				14011.2-14011.1						12921.31-12921.33				20q13.32-q13.33						1ρ32.3-ρ34.3			140112-14011.1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
L anne der	angemeldeten	Sequenz in Basen	779	2310	95.4		1112		1516		568	1775	509	2191		1760	1026	676	1254	537	700	823	1082	1540	844	690	546	1591	441	1131	1071		908		581	707	3566	2000
Module				abhydro-	lase"		·		"kazal"	"trm"	J. BTILL	3x 1 11v1	"Thymosin"	"IGFBP".	"thyro-	globulin_1	"lipocolin"	III)UCallit						5x "LRR"	"S2"		-22-JMd.	"G.aloha"	"arf"	"HMG14_17"	"hormone"		3x PTN MK	"AhpC-TSA"			3	LILUM.
	Funklion		amuel lan one	Human mRNA for ornithine decarboxylase and yillo		Human cocaine and amphetamine regulated transcript	CART (hCART)	Human microfibuli-associated glycophoteni (Mir. 2)	Human mRNA for KIAA0108 gene	Human SPARC/osteonecilin	Homo sapiens spirong recent and r	Human triosephosphale isomerase	arlicle (nnking) c	ے	Human growth hormone-dependent instant in Section 1970	ומרוחו החוותייות לה	Human H19	Human cellular relinoic acid-binding prolein II (CRABF)	ohekanol		Homolog zu Homo sapiens mRNA for putatively		mnekanni	Humanes Homolog zu P. vivax pva i gene	Human lunican mRNA	Human 37 kD laminin tecephor precursority of the precursority of t	Human YMP	I I	Human mRNA for coupling protein G(s) appla-suburing	Human hnRNP core protein A1	Protein	H. sapiens mRNA for prolactin (clone Fix. 202)	Human mRNA for neurile outgrowth promoting protein.	(pad) Spring DNA for proliferation-associated gene (pag)	H. sapletts filtring for promote appears and a NAC	II saliens all	unbekanni	Verlängerung von Seq. ID. 14
TABELLE I	Expression Im .	Ulerus- Mvomaewebe:		erhöhl	erhoni	erhöhl		erhöhl	erhöht	erhöhl	erhöht	high	arhöht	erhöhl	erhähl	•	achAhi	caronn	CITIONIA	ernoun.	erhoni) """	erhöhl	erhöhl	erhöhl	erhölvl	ld School	ethöhl	erhöhl	erhähl	erhöhl	erhähl	erhöht		erhöhl	erhoni	ernom	ernom
71	Inenz		<u>·</u>	-		-	,	4	5	9	_	c		, 0	=			2	13	4	52	9	17:	- 4	61	20		21	23	24	25	26	76	٠ <u>.</u>	28	29	30	E

1

References to the modules:

Pfam: Protein families database of alignments and HMMs (pfam@sanger.ac.uk)

PROSITE: The PROSITE database, its status in 1999. Nucleic

Acids Res. 27: 215-219 -(http://www.expasy.ch/sprot/prosite.html)-

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TABLE I

	TABELLE I		Module	I Anne der	Cytogenelische	nächster Marker
	Expression Im	Funklion		angemeldeten	Lokalisation	
	.Uterus-)	<u>, -</u>	Sequenz in		
	Myomgewebe:			Basen		
	1 1 1	H. R. C. BMA for ornilline decarboxylase anlizyme		779		
1	erhöhl	Human MEST mRNA	"abhydro- lase"	2310		
,	. 10	11. man consine and amphetamine regulated transcript	2	854	5q11.2-q13.1	D5S1730
	erhohi	CART (hCART)		1112	1p36.11-p36.13	
•	erhähl	=		1051	2p23.3	025387
١.	erhöhl	Human mRNA for KIAA0108 gene	"kazal"	1516	5q32-q33.1	0020
	erliähl	Human SPARC/osteonectin	, (UU),	2367	2p22.3-p22.1	8676-IW
1	erhähl	Homo saplens splicing factor, argumersering for the reserved (SFRS7)	THE COLUMN	568		
	arhöht	riosephos	3X 1 11M	1775		
	erhöhl	Human nuclear ribonucleoprotein particle (hnRNP.) C	"Thymosio"	509		
	erhöhl	Human thymosin bela-4	"IGERP"	2191	7p12.2-p13	
	erhöhl	Human growith hormone-dependent insulin-like growiti factor-binding protein mRNA	"flyro-			
			Bionnin	1769		
	erhöht	Human H19	"lipocalin"	1026		1001 111
	erhöhl	Human cellular relinoic acid-binding protein il (cross)	"ccm"	929	14p11.2-14p11.1	WI-4204
	erhöhl	unbekannl		1254		
	erhäht ,	unbekannl		537		
1	erhöhl	Homolog zu Homo saplens mKNA for putauvery	,			
,		prenylated protein		823		
	erhöhit	Humanas Homolog zu P. vlvax pva1 gene		1	19091 21 19091 13	D12S351
	erholn	Milliands House and Andrew	5x "LRR"		12421.31-12421	
_ 1	erhöhl	Human 37 kD laminin receptor precursor/p40 ribosome	#25#	1844		
		associated protein	"PMP22"	962		
	erhöht	Human YMP	-		20 07 00 07 00	-
	erhöhl erhöhl	Human mRNA for coupling protein G(s) alpha-subunit	"G-alpha",	1591	20013.32-413.33	
		in Solid core profess A1	"ແເກ"			
	erhölvl	HMG-17	"HMG14_17"			
		protein Caraciactia (clone PRL 205)	"hormone"	1071		
	erhöhi	H.sapiens mKNA for judaciii veese				
	erhöhl	Human mRNA for neurite outgrowth-promoting protein.	3x *PTN MK*	969 		
		Manager Service (Pag)	3		1032.3-p34.3	
	erhoni	H saniens alpha NAC		581		
	erhöhl	แก้ยะหลกที่		111		
1	erhöht		anua.	3665	14p11.2-14p11.1	WI-4204
- 1	erhöhl	Verlängerung von Seq. ID. 14				



References to the modules:

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Brown